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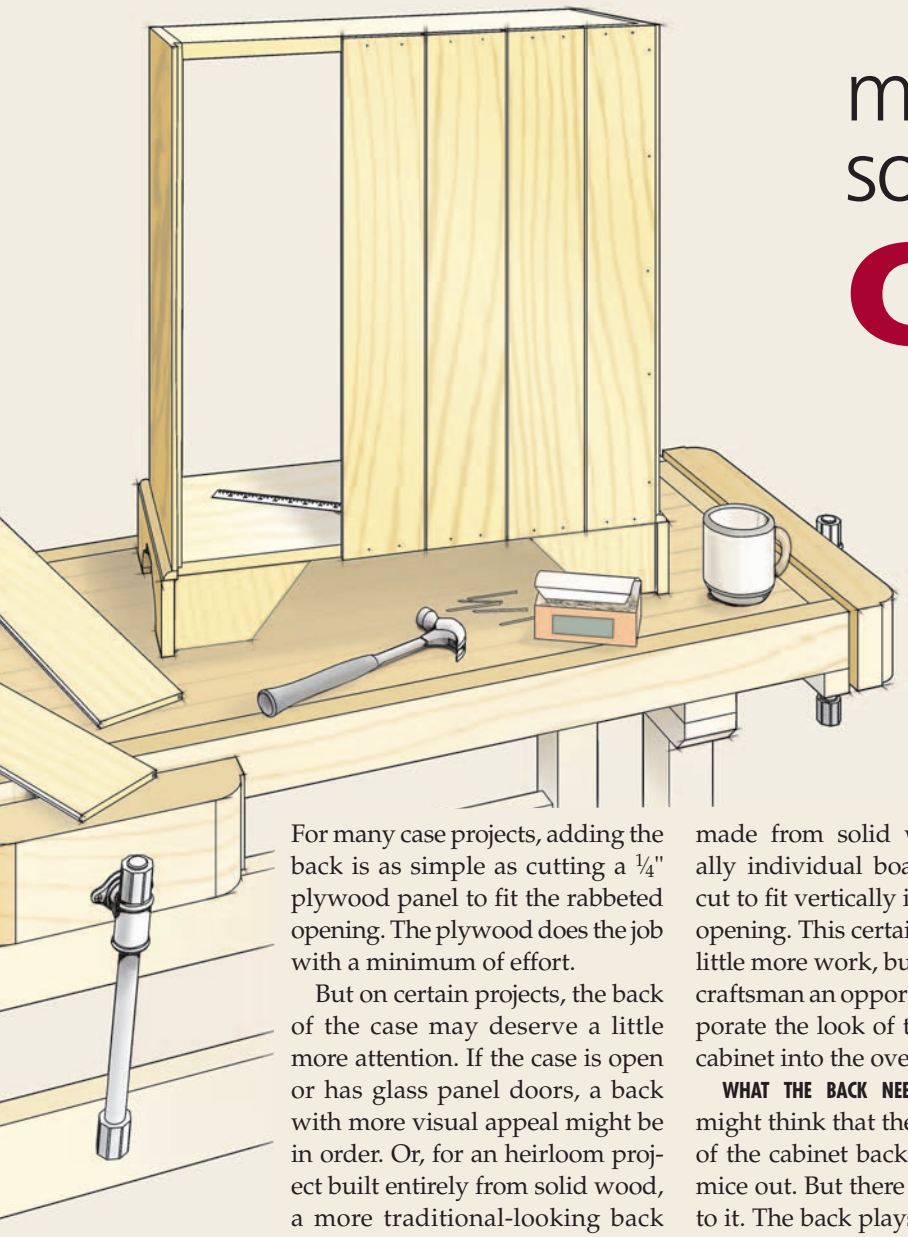


making a solid-wood Cabinet Back

Installing solid-wood back boards is a great way to add to the traditional look of a cabinet.

For many case projects, adding the back is as simple as cutting a ¼" plywood panel to fit the rabbeted opening. The plywood does the job with a minimum of effort.

But on certain projects, the back of the case may deserve a little more attention. If the case is open or has glass panel doors, a back with more visual appeal might be in order. Or, for an heirloom project built entirely from solid wood, a more traditional-looking back would be a better fit.

A BOARD BACK. Before the days of plywood, cabinet backs had to be made from solid wood — usually individual boards that were cut to fit vertically into a rabbeted opening. This certainly involved a little more work, but also gave the craftsman an opportunity to incorporate the look of the back of the cabinet into the overall design.

WHAT THE BACK NEEDS TO DO. You might think that the only purpose of the cabinet back is to keep the mice out. But there is a little more to it. The back plays an important structural role by providing racking resistance and rigidity. Once the case is squared up and the back attached, the likelihood of it going out of square is small.

Second, the back also helps keep the case top, bottom, and sides straight and aligned. With the back firmly attached, the sides or the top and bottom can't spread or bow.

WOOD MOVEMENT. So why not simply glue up a solid-wood panel to fit the back of the case? This would certainly give you the rigidity you need, but wouldn't pass one important test. A solid-wood panel would be too unstable. In other words, it would expand and contract too much with changes in the humidity. As the panel swells and shrinks, it would push and pull on the case, possibly resulting in distortion, cracking, gaps, and even ruptured glue joints.

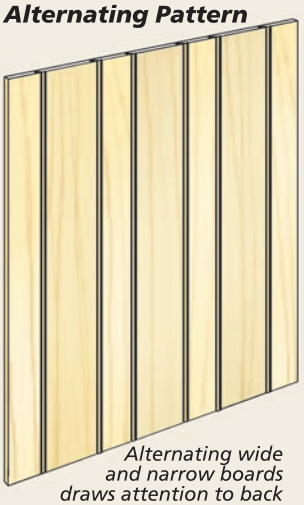
The key to making a sound, solid-wood cabinet back is to take wood movement into account. This is why individual, "floating" boards are used for the job.

The drawing at the top of the opposite page shows the secret. The boards that make up the back are joined together, but not glued together. A small gap at each joint allows the boards to expand and

Uniform Pattern

Boards of uniform width give formal appearance

Alternating Pattern



Alternating wide and narrow boards draws attention to back

Random Pattern

Random width boards make good use of material

contract independently without causing any problems.

CONSIDERATIONS. Installing a board back on a cabinet is pretty straightforward, but there are a lot of minor details to consider.

To accommodate a board back, the case sides are rabbeted. The case top and bottom can be rabbeted or "cut short" to allow the boards to lap completely, as shown in the drawings below. This arrangement gives you a wider surface on which to fasten the boards, while the exposed ends can be hidden by the finished top and base.

STOCK THICKNESS. I've found that thick boards add extra weight to a project and aren't necessary. Back boards that are ⅜"- to ½"-thick will do the job and save on lumber.

BOARD PATTERN. The drawing at the bottom of the opposite page shows three common ways to arrange the boards. For a formal appearance, use boards that are all the same width or alternate wide and narrow boards. Here, be sure to center the pattern so that the boards at each side are equal-width. A random, "use-the-boards-you-have" pattern creates a rustic look.

The width of the boards is going to be dictated by the pattern used. But the wider the board, the more movement, so I limit the width to a maximum of about 8".

JOINT CHOICES. As mentioned, the goal of the joints between the boards is to form a "solid" back, while keeping the boards in alignment *and* allowing them to move freely. There are several good ways to accomplish this.

One of the most common joints used between back boards is a simple shiplap, shown in the left drawing below. The two rabbeted halves of the joint simply overlap to seal the joint. The key here is that you need to leave a small gap in the joint to allow expansion.

A tongue and groove joint (middle drawing below) is a bit more work to make, but will do a better job of keeping the back boards in alignment. Again, a planned gap allows movement.

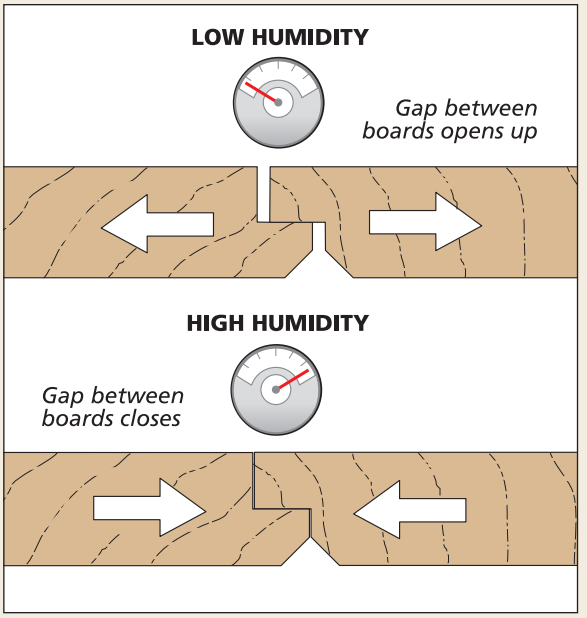
An alternative to a tongue and groove is the splined joint, shown below at far right. The splines can be free-floating or glued into one of the grooves, but never both.

ADDING DETAIL. The joints between the boards will be noticeable, and this is part of the attraction. Leaving the edges of the boards square will enhance this "board look."

Or, you can add to the visual appeal by cutting a molded profile on one or both sides of the joint. Common profiles include a bead along one edge, a V-groove centered on the joint, or a small roundover on each edge. The drawings below give you a couple of ideas.

FASTENING HOW-TO. Once the back boards are cut to fit the opening, you'll need to fasten them in place. The first rule here is to keep the glue bottle in the cupboard. Nails or screws are called upon for this job. Nails work well for "light-duty" applications, screws will give you more rigidity and holding power on a larger cabinet.

The drawings below show different ways to fasten the boards.



Floating Joints. *The key here is that the back boards are not rigidly fastened to one another. The joints can open and close slightly with changes in the humidity.*

When installing shiplap boards, you can pin both boards with one nail near the edge of the overlapping board. (Just don't put the fastener through the joint.)

Tongue and grooved or splined boards can be pinned in the middle. This keeps the boards centered. If you need several fasteners on a wide board, keep them back from the edges. You don't want it held tightly across its entire width.

Finally, I always fasten the boards into the rabbets at the sides of the case. This reinforces the case and keeps the sides straight.

There's nothing tricky or difficult about adding a solid-wood back to a project. With just a little attention to the details, you can install a board back that's both sound and great looking. W